

REMARKS/ARGUMENTS

Status of the Application

In the May 20, 2008, Non-Final Office Action, Claims 1-13 were rejected. No amendments are presently being made and, thus, Claims 1-13 are currently pending and no new matter was added.

Rejections Under 35 U.S.C. § 103

Claims 1-13 were rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 3,892,714 to Sampson *et al.* (hereinafter "Sampson") in view of U.S. Patent No. 5,514,755 to Fenn *et al.* (hereinafter "Fenn"). More specifically, Examiner asserts that Sampson discloses all elements of independent Claim 1 with the exception of 1) a cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid (component b) of step AI)) and 2) the hydroxy-functional (meth)acrylic copolymer obtained in step AI) having a glass transition temperature Tg of at least 50°C. However, Examiner asserts that the cycloaliphatic ester component limitation is taught by Fenn and further asserts that it would have been obvious to one skilled in the art to combine Fenn with Sampson to arrive at the present invention. Examiner also asserts that the compositions of Sampson would inherently possess a Tg of at least 50°C, thereby meeting that limitation. Further, Examiner asserts that the additional limitation of dependent Claim 2 is taught by Fenn and, again, that it would have been obvious to combine Fenn with Sampson, and that the additional limitations of dependent Claims 3 and 4 would have been an inherent property of the compositions of Sampson. Applicants respectfully disagree for the several reasons outlined below.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art" (MPEP § 2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (emphasis added)). As such, "[i]n the case where the claimed ranges 'overlap or lie inside ranges disclosed by the prior art' a *prima facie* case of obviousness exists (MPEP § 2144.05.I. (quoting *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976)). However, "Applicants can rebut a *prima facie* case of obviousness based on overlapping ranges by showing the criticality of the claimed range" (MPEP § 2144.05.III.) This is generally accomplished "by showing that the claimed range achieves unexpected results

relative to the prior art range" (*Id.* (quoting *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990)). Moreover, a prima facie case of obviousness based on overlapping ranges can be rebutted by showing "[t]hat the prior art taught away from the claimed invention" (*Id.* (quoting *Iron Grip Barbell Co., Inc. v. USA Sports, Inc.*, 392 F.3d 1317, 1322, 73 USPQ2d 1225, 1228 (Fed. Cir. 2004)), keeping in mind that "[a] prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention" (MPEP § 2143.02.VI, citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983)).

Under this legal framework, Sampson fails to make obvious the claimed OH value of the present invention. Claim 1 of the present application recites a hydroxy-functional (meth)acrylic copolymer having an OH value from 160 to 200 mg KOH/g. Claim 3 further limits the OH value to 170-190 mg KOH/g. Examiner cites Sampson as teaching this limitation through its recitation of an OH value "of at least 20 mg KOH/g but preferably less than 250 mg KOH/g" (Sampson at col. 1, lines 61-64). While these are clearly overlapping ranges, the Examples of the present application demonstrate that unexpected results are obtained by employing the relatively narrow range of OH values presently claimed. Examples 2 and 3 describe compositions meeting the limitations of Claim 1 of the present application, both of which have OH values of 175 mg KOH/g. In contrast, Example 4, a comparative example, describes a composition containing essentially the same components but which has an OH value just outside of the presently claimed range, namely 155 mg KOH/g. The Table on page 21 of the present application demonstrates that a greatly improved hardness and scratch resistance is obtained with the compositions of the present invention than is obtained with the comparative example composition that does not have the claimed OH value. More specifically, the compositions of Examples 2 and 3 have initial Fischer hardness values that are 40-80% higher than that of comparative Example 4 and Fischer hardness values after one week that are 132-167% higher. As for Perzos hardness values, Examples 2 and 3 possess initial hardness values that are 27-31% higher and one week hardness values that are 50-54% higher than the compositions possessing OH values outside of the claimed range. Similarly, Example 2 possesses a much improved scratch resistance value over that of Example 4, namely a 37% improvement in scratch resistance (i.e. the

comparative example composition demonstrated a 37% greater reduction in gloss after scratching than the composition of the present invention). This all clearly demonstrates that compositions which possess an OH value within the claimed range have advantageous properties over similar compositions with OH values outside of the claimed range. Thus, the presently claimed OH value limitation clearly imparts unexpected advantages over the prior art range disclosed in Sampson. Applicants therefore submit that they have successfully “rebut[ted] a *prima facie* case of obviousness based on overlapping ranges by showing the criticality of the claimed range,” and thus request that the presently claimed invention be deemed nonobvious over the cited references.

Moreover, the disclosure of Sampson actually teaches away from the OH value range claimed in the present application, further demonstrating the nonobviousness of the present invention. While Sampson generally discloses that OH values of 20-250 mg KOH/g could be used in the invention disclosed therein, it also states that preferred OH values are from 30 to 100 mg KOH/g. Further, the Examples of Sampson demonstrate that relatively low OH values are the ones truly useful in that invention, as the highest OH value disclosed in any Example is 46 mg KOH/g. This all clearly teaches away from the presently claimed OH value range of 160-200 mg KOH/g. As such, Sampson fails to make obvious the OH value limitation of the present invention.

In addition, contrary to Examiner’s contention, it would not have been obvious to one skilled in the art to combine Sampson with the disclosure of Fenn to arrive at a composition comprising a cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid, or more specifically comprising isobornyl (meth)acrylate, again making the present invention nonobvious over these references. As stated above, “[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art” (MPEP § 2143.03, citing *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)). In addition, “[t]he prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success” (MPEP § 2143.02, citing *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)). This includes situations where there is no explicit teaching, motivation, or suggestion in the prior art to make the claimed modification or combination, but the

combination or modification would have been obvious to try given the state of knowledge in the art at the time the application was filed (*KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007)). It must also be noted that, "[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness" (MPEP § 2142).

In the May 20, 2008, Office Action, Examiner asserts that, while Sampson fails to teach component b) of the present invention (i.e., a cycloaliphatic ester of a free-radically copolymerizable olefinically unsaturated carboxylic acid), Fenn teaches compositions comprising isobornyl methacrylate, which meets the definition of component b), and further asserts that it would have been obvious to combine Fenn with Sampson to arrive at the present invention. In making these assertions, Examiner never contends that there is an explicit teaching, suggestion, or motivation within either of these references to combine them to arrive at the present invention. Moreover, Applicant submits that no such explicit teaching, suggestion, or motivation exists. However, as stated above, even in the absence of an explicit teaching, suggestion, or motivation, prior art can be combined to reject claims as obvious if such a combination would have been obvious to try, meaning there is a reasonable expectation of success in making the proposed combination. Here, given the disclosure of the prior art references, no such reasonable expectation of success exists.

Fenn is directed toward a specific combination of isobornyl methacrylate and 4-hydroxybutyl acrylate with other ethylenic monomers. However, though Fenn specifically discloses the inclusion of isobornyl methacrylate, the reference also states that "[w]e have found that . . . the inclusion of isobornyl methacrylate [without 4-hydroxybutyl acrylate] in the polymer . . . gives little or no improvement in hardness and somewhat soft films result." Given such a disclosure, one skilled in the art would have no reasonable expectation of success in producing coating compositions with good hardness properties by simply adding the isobornyl methacrylate of Fenn to the compositions of Sampson. In fact, Fenn seems to teach against such a combination by stating that this would likely result in a "somewhat soft film." Thus, there would exist no motivation to even try such a combination, thereby making the present invention nonobvious over these references.

For all of the above reasons, Applicants assert that Sampson in combination with Fenn fails to make obvious Claim 1 of the present application. As Claims 2-8 are dependent upon, and narrower than Claim 1, Applicants assert that these claims should also be deemed nonobvious over these references. Moreover, as Claims 9-13 describe processes for preparing multi-layer coatings employing the nonobvious compositions of Claim 1 and its dependent claims, Applicants assert that these claims should all be held to be nonobvious over these references, as well. Thus, Applicants respectfully submit that all pending claims are nonobvious over the cited references and respectfully request that the rejections be withdrawn and all claims allowed.

Summary

In order to expedite disposition of this case, the Examiner is invited to contact Applicants' representative at the telephone number below to resolve any remaining issues. Should there be a fee due which is not accounted for, please charge such fee to Deposit Account No. 04-1928 (E.I. du Pont de Nemours and Company).

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Dated: August 20, 2008